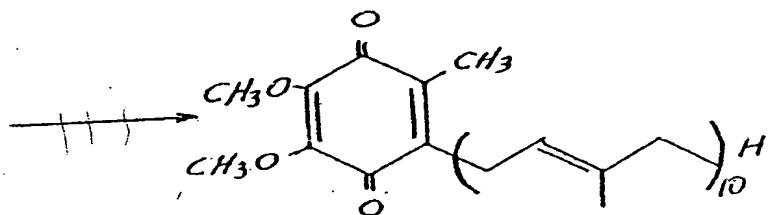


I Claim:

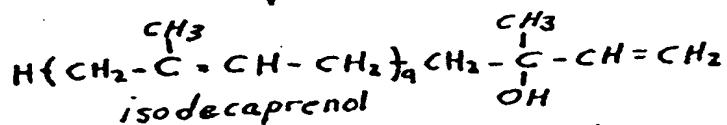
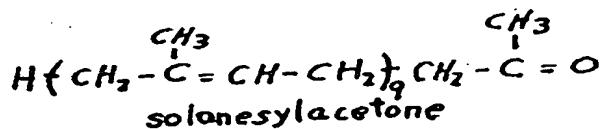
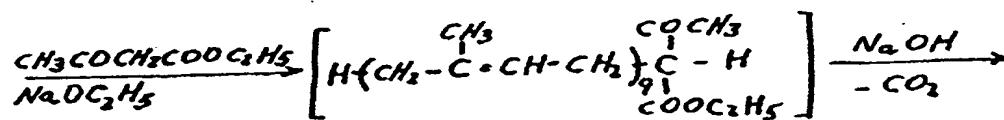
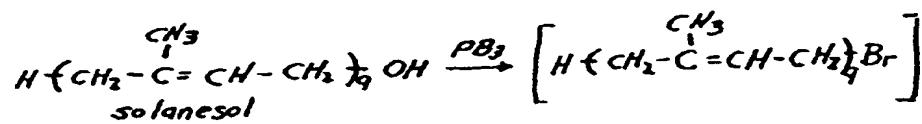
1. A stereospecific synthesis of optically pure trans (E) isomer of coenzyme Q<sub>10</sub> having the formula



*Ubiquinone*

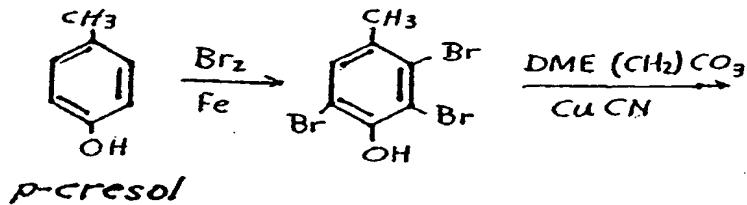
which comprises extracting solanesol from tobacco dust and using said solanesol as the starting material for carrying out the following sequence of reactions

*Solanesylacetone*

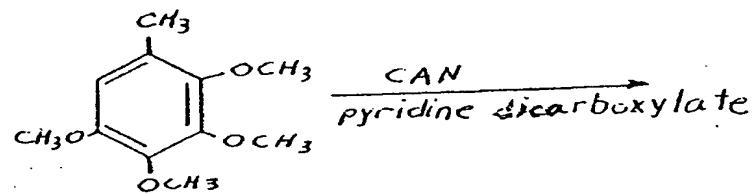


separately carrying out the following reactions:

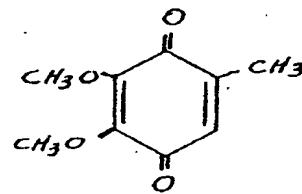
*2,3,6 - Tribromo- 4 - methylphenol*



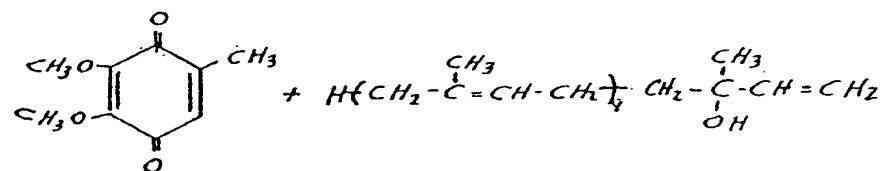
*2,3,4,5 - Tetramethoxytoluene*



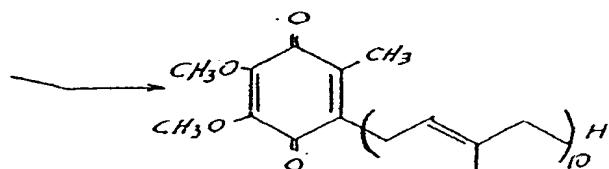
*2,3 - Dimethoxy-5 - methylhydroquinone*



thereafter reacting the isodecaprenol and 2, 3-dimethoxy-5-methyl-hydroquinone to form the optical pure ubiquinone



2,3-dimethoxy-5-methylhydroquinone isodecaprenol



Ubiquinone

2. Method of treating impaired or damaged tissue in humans and animals  
which comprises administering a composition comprising as the principal  
active ingredient a therapeutically effective amount of optically pure trans  
(E) isomer of coenzyme Q 10 (2,3 - dimethoxy - 5 - methyl - 6 -  
decaprenyl - benzoquinone) in admixture with a pharmaceutically  
acceptable carrier.

3. The method of claim 2 wherein said composition is administered orally.

4. The method of claim 3 wherein said composition is administered in an  
amount of 15-400 mg pro die.

5. The method of claim 3 wherein said composition is administered in an  
amount of 100-200 mg pro die.

6. The method of claim 3 wherein said composition is administered in an  
amount of 15-30 mg pro die.

7. The method of claim 3 wherein said composition is in tablet form.

8. The method of claim 3 wherein said composition is in liquid form.

9. The method of claim 2 wherein said composition is administered by  
topical application.

10. The method of claim 9 wherein said composition contains the optically  
pure coenzyme Q 10 in an amount of 0.1-10%.

11. The method of claim 9 wherein said composition contains the optically  
pure coenzyme Q 10 in an amount of 0.25-1%.

12. The method of claim 9 wherein said composition is to be used as a cosmetic and said optically pure coenzyme Q 10 is present in an amount of 0.0001 to 0.1%.
13. The method of claim 2 wherein said pharmaceutically acceptable carrier is a vegetable oil.
14. The method of claim 9 wherein said composition is formulated as a paste, cream, ointment, gel, lotion or unguent.
15. The stereospecific optically pure trans (E) isomer of coenzyme Q 10 produced by the process of claim 1.